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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,454	09/09/1999	GUY L. GRENIER	91436-193	1175

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SMART AND BIGGAR
438 UNIVERSITY AVENUE
SUITE 1500 BOX 111
TORONTO, ON M5G2K8
CANADA

EXAMINER

FERRIS, DERRICK W

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 05/10/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/392,454

Applicant(s)

GRENIER ET AL.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. In particular, the examiner has added a new rejection thus making this Office action non-final.
2. **Claims 1-26** as filed are still in consideration for this application.
3. Examiner does **not withdraw** the obviousness rejection to *Anderson et al.* in view of *Afferton et al.* for Office action filed 8/25/03 for **claims 13, 14 and 16-18**. In particular, applicant does not further claim "in response to detecting a degraded signal as a result of the monitoring, generating ATM cells indicative of said signal degrade on said ATM network" such that the relationship between ATM and a physical layer is unclear. In particular, *Anderson* teaches monitoring SD at the ATM layer and *Afferton* teaches monitoring SD (and SF) at the physical layer. Thus detecting SD at the physical layer would impact the ATM layer (i.e., layers above the physical layer). However, how the higher layers are affected (i.e., ATM channels) is not further claimed since applicant does not clearly claim the relationship between generating ATM cells indicative of SD at the ATM level. If the limitation were added then the examiner would withdraw the rejection to the claim(s). See also the 112-second paragraph below.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. **Claims 16-18** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

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the invention. In particular, **claims 16-18** lack antecedent basis for "said ATM cells". Examiner notes ATM cells are not mentioned until claim 15.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 13, 14, and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No., 5,838,924 to Anderson et al. ("*Anderson*") in view of U.S. Patent No., 6,452,906 to Afferton et al. ("*Afferton*").

As to **claims 13-14**, figure 5 of *Anderson* shows a flow chart illustration of a Virtual Path Group (VPG) protection switching algorithm employed in a sink node. Attention is drawn to the detection step 503 used to detect defect type indications (DTI) including physical layer defects and ATM layer defects [column 3, lines 15-22; column 5, lines 66-67; column 6, lines 1-19].

Specifically, examiner notes two general types of physical layer defects are known in the art for signal degrade (SD). These are also further emphasized by applicant on pages 1-2 of applicant's written disclosure. Examiner notes *Anderson* also discloses signal degrade detection at the ATM layer (i.e., ATM layer defects) through "performance monitoring 'PM' flows" as defined by applicant [Applicant's disclosure on page 3]. Not clearly disclosed by *Anderson*, however, are signal degrade (SD) defects at the physical layer. Thus the reference is silent or deficient for detecting SD at the

physical layer. Examiner notes that it would have been obvious to a skilled artisan prior to applicant's invention to also include signal degrade (SD) defects in general since signal degrade (SD) defects are also known defects detected at the physical layer. This is further supported in the Background of *Afferton* noting that in a Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) network, signal fail (SF) and signal degrade (SD) faults are detected at a SONET/SDH network element (NE) [column 1, lines 20-30]. Examiner notes that the reference further goes on to disclose that the nearest pair of SONET/SDH NEs inserts an Alarm Indication Signal (AIS-P) in the failed path upon detection of a fault so that all other NEs down the signal paths are informed that there is a fault upstream. Thus the reference discloses that it is well known in the art to detect SD and then generally send a notification downstream through the network. Thus it would have also been obvious to someone skilled in the art to modify the ATM OAM cell in figure 4 to also include SD failures. The motivation being that the reference includes a general defect type for physical layer defects. Thus creating a broad but reasonable interpretation of "generating ATM cells indicative of said signal degrade" (i.e., the recited claimed subject matter does not disclose how the ATM cells indicate a signal degrade only that it is broadly possible to indicate a signal degrade).

As to **claim 16**, *Anderson* and *Afferton* both disclose using an alarm indication signal (recall that *Afferton* discloses that this can also be used with both SF and SD).

As to **claims 17**, *Afferton* discloses using bit error rates in general. Finally, *Anderson* discloses going between working and protection in general such that it would have been obvious to a skilled artisan prior to applicant's invention to implement the

switching using the I.630 protocol, the motivation being to confirm to standards when performing protection switching.

As to **claim 18**, *Anderson* and *Afferton* both disclose using AIS cells transmitted in a down stream direction.

As both *Anderson* and *Afferton* disclose network communications in general, and more specifically transmitting information over SONET for detecting faults using AIS, examiner notes a motivation to combine the subject matter as a whole for both references.

8. **Claims 1-10, 13-16, and 18-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,974,045 to *Ohkura et al* ("*Ohkura*") in view of U.S. Patent No., 5,764,651 to *Bullock et al.* ("*Bullock*").

As to **claim 1**, *Ohkura* discloses an error detection method shown in figure 1. In particular an alarm detection means 2 detects a physical layer alarm and then notifies an output means 3.

What may not be clear from the reference is that the physical alarm signal is a signal degrade (SD) signal. In particular, *Ohkura* teaches that the alarm detection means 2 monitors *some* particular portions of each frame, see e.g., column 4, lines 5-8 and column 4, lines 20-26. Specifically, *Ohkura* is silent or deficient to mentioning signal degrade (SD) or signal fail (SF). Instead, *Ohkura* teaches monitoring the physical SONET layer.

Bullock discloses detecting SD at the physical layer, see e.g., column 5, lines 15-25. It is important to note that *Bullock* teaches monitoring SD at the SONET physical layer and not the ATM layer. This is in apparent contrast to applicant's specification,

which teaches that SD monitoring is typically performed at the ATM layer, see e.g., page 1, last paragraph.

Thus examiner purposes to clarify that “some particular portions of each frame” at the SONET physical layer as taught by *Ohkura* are signal degrade (SD).

Therefore, examiner notes that it would have been obvious to one skilled in the art prior to applicant’s invention to include the further limitation that SD is monitored at the physical layer. One skilled in the art would be motivated to perform the modification since *Ohkura* teaches that SD is performed at the SONET layer and the SONET layer is what *Ohkura* monitors. Further *Ohkura* teaches detecting SD uses *some* particular portions of the SONET frame. Examiner also notes a reasonable expectation of success since the SONET layer is what is being monitored where both references teach that ATM runs over SONET, see e.g., column 1, lines 54-56 of *Bullock*. Furthermore, *Ohkura* teaches outputting a coincidence signal for all ATM cell streams affected thus teaching an indicative signal at the ATM layer for a physical alarm.

As to **claim 2**, see e.g., column 2, lines 32-36 of *Bullock*.

As to **claim 3**, see similar rejection to claim 2.

As to **claim 4**, see rejection for claim 1.

As to **claim 5**, see e.g., column 5, lines 20-25 of *Bullock*.

As to **claim 6**, see e.g., column 3, lines 25-40 of *Bullock*.

As to **claim 7**, see e.g., column 5, lines 20-25 of *Bullock*.

As to **claim 8**, see e.g., figure 1 of *Ohkura*.

As to **claim 9**, see e.g., column 5, lines 39-50 of *Ohkura*.

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As to **claim 10**, see e.g., column 2, lines 32-36 of *Bullock*.

As to **claim 13**, see similar rejection for claim 1.

As to **claim 14**, see similar rejection for claim 1.

As to **claim 15**, see similar rejection for claim 1.

As to **claim 16**, see similar rejection for claim 8.

As to **claim 18**, see similar rejection for claim 9.

As to **claim 19**, see similar rejection for claim 1.

As to **claim 20**, see similar rejection for claim 1.

As to **claim 21**, see combined rejection to claims 1 and 9.

As to **claim 22**, see similar rejection for claim 1.

As to **claim 23**, see similar rejection for claim 2.

As to **claim 24**, see similar rejection for claim 3.

As to **claim 25**, see similar rejection for claim 5.

As to **claim 26**, see similar rejection for claim 6.

9. **Claims 11-12 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,974,045 to *Ohkura et al* ("*Ohkura*") in view of U.S. Patent No., 5,764,651 to *Bullock et al.* ("*Bullock*") in further view of "Integrated Services Digital Network (ISDN) Maintenance Principles: ATM Protection Switching" to *ITU-T I.630* ("*I.630*")

As to **claims 11 and 12**, *Ohkura* and *Bullock* are silent or deficient to mentioning coordination protocol (CP) cells for performing protection switching. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use coordination protocol (CP) cells for performing protection switching. One skilled in

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the art would be motivated to use CP cells since CP cells are taught as part of the *I.630* specification. In particular, see Annex A on page 27 of *I.630*. Examiner notes a reasonable expectation level of success since both *Bullock* and *I.630* discloses protection switching.

As to **claim 17**, see similar rejection for claim 11.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
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DWF


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SUPERVISORY PATENT EXAMINER
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